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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,757

09/30/2004

Yuichi Terada

DK-US020721

8137

22919 7590 01/05/2009  
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EXAMINER

CORRIGAN, JOSEPH JAMES

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

01/05/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/509,757	<b>Applicant(s)</b> TERADA, YUICHI	
	<b>Examiner</b> JOSEPH CORRIGAN	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/11/08 and 12/03/08</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on July 1, 2008 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

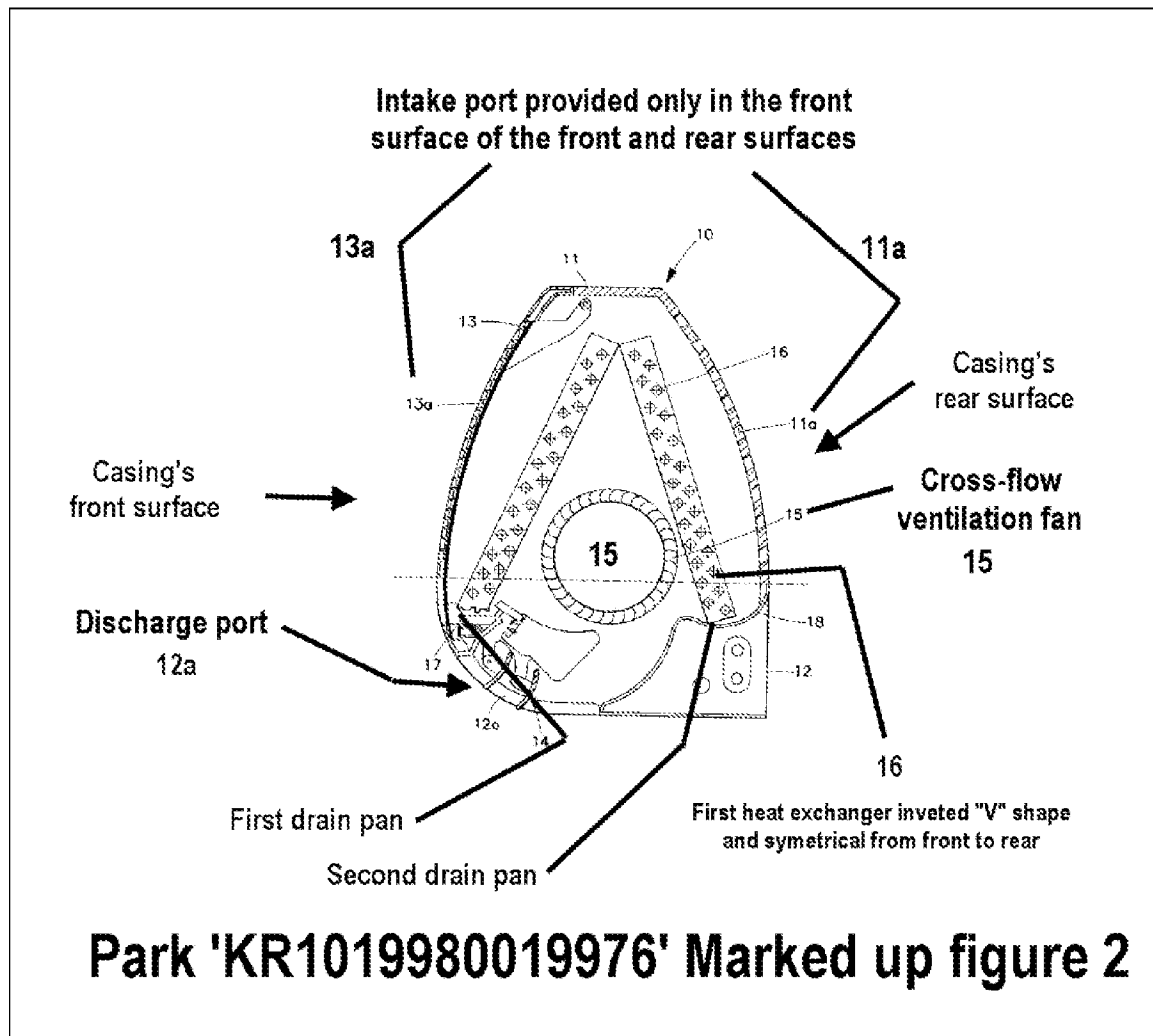
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over King 'KR101998019976' in view of Yamashita et al 'JP 06-094256'.

In re claims 1 and 3, King discloses an indoor unit of an air conditioner comprising: a casing having a front surface, a rear surface, a discharge port 12a and an intake port 11a, 13a provided only in the front surface of the front and rear surfaces; a ventilation fan 15 disposed in the casing to rotate about a

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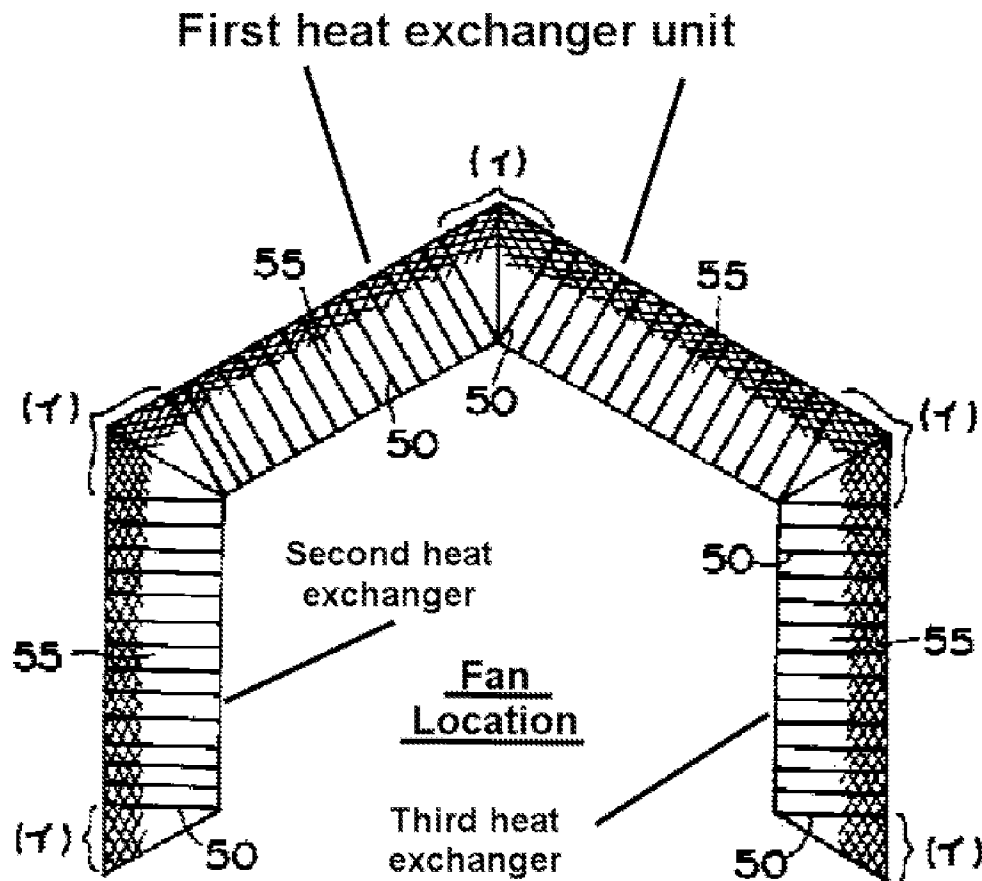
rotation axis, the ventilation fan being a cross flow fan that is arranged to blow air in a direction perpendicular to the rotation axis out of the discharge port of the casing; and a heat exchanger 16 disposed in the casing of the indoor unit so as to cover the ventilation fan, the heat exchanger 16 including a first heat exchange unit 16 having an approximate inverted V shape in cross-section, symmetrical from front to back (see marked up figure 2 of Park); however, Park fails to explicitly recite a second heat exchange unit that is connected at an angle with one end of the first heat exchange unit, and a third heat exchange unit that is connected at an angle with another end of the first heat exchange unit, the second heat exchange unit and the third heat exchange unit respectively extend downward from respective front and rear lower ends of the first heat exchange unit and the second heat exchange unit and the third heat exchange unit have approximately the same length.



Yamashita et al teach a second heat exchange unit that is connected at an angle with one end of the first heat exchange unit, and a third heat exchange unit that is connected at an angle with another end of the first heat exchange unit, the second heat exchange unit and the third heat exchange unit respectively extend downward from respective front and rear lower ends of the first heat exchange unit and the second heat exchange unit and the third heat exchange unit have approximately the same length and symmetrical from front to back (see marked up figure 8 of Yamashita et al.)

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify King with four-section inverted V-shaped heat exchanger symmetrical from front to rear in a surrounding fashion as taught by Yamashita et al in order to advantageously draw air at right angles through the heat exchanger allowing for less resistance through its fins, and thereby, conserving energy.



**Yamashita et al 'JP-06094256' Marked up figure 8**

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4. Claims 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over King 'KR101998019976' in combination with Yamashita et al 'JP 06-094256', as applied to claim 1, and further in view of Tsutsumi et al '2002/243191'.

In re claims 5, 7, and 8, King discloses that the heat exchanger covers front, upper and rear portions of the ventilation fan, and is disposed so that a lower front end and a lower rear end of the heat exchanger are at a height of an apex of the ventilation fan or lower (see marked up figure 2 of King); the lowest points of the heat exchanger are at the same approximate height; the heat exchanger is symmetrical from front to back; and a first drain pan that is disposed below the lower front end of the heat exchanger; a second drain pan that is disposed below the lower rear end of the heat exchanger, both pans being at the same approximate height (see page 3 of King translation, in "Structure & Operation of Invention", lines 24-26 from heading re drain pan positioning and also note "well" like shaping of liner portions below each heat exchanger section); however, King fails to explicitly recite a drain path arranged to pass through which drain water discharged from the first drain pan and the second drain pan.

Tsutsumi et al a common drain path below an inverted "V" shaped heat exchanger.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify King with a common drain path as taught by Tsutsumi et al in order to advantageously consolidate the condensate making the plumbing discharge easier to route.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 3, 4, 5, 7, and 8 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph J. Corrigan whose telephone number is 571-270-3213. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors are Cheryl Tyler or Frantz Jules on (571) 272-4834 or (571) 272-6681, respectively. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/Joseph Corrigan/  
Examiner; Art Unit 3744  
12/29/08

/Allan N. Shoap/  
Supervisory Patent Examiner, Art  
Unit 3700